

# BULLETIN

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## ESSEX INSTITUTE.

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CATALOGUE OF THE MAMMALS OF FLORIDA, WITH NOTES ON THEIR  
HABITS, DISTRIBUTION, ETC.—BY C. J. MAYNARD.

[Continued.]

2. *Lynx rufus* RAFINESQUE.

Common Wild Cat.

THIS animal is abundant even on the borders of the settled districts. It is quite annoying to the planters, for it not only commits serious inroads upon hen roosts, but frequently carries off young pigs. It is a nocturnal animal, and is seldom seen abroad during the day, but conceals itself in the thick hummocks. During the season when the males are in pursuit of the females it may be occasionally met with, especially in the morning and evening. At this time its loud and varied cries are heard, sometimes during the day, but oftener during the night. This is naturally a cowardly animal, and will invariably fly from man when it has the power to do so. The wild cats are only as large as setter dogs, yet they possess great strength, and a man requires considerable determination to attack one when placed in such a situation that it cannot escape. My friend, Mr. Thurston, once seized a full grown male, that was only slightly stunned by a charge of dust shot, and strangled it, but did not escape without receiving some scratches. Although shy when faced, they will often approach quite near one when sleeping in the open air, and I have upon two

occasions been awakened by their cries to find the beasts within a few feet of me, but upon my moving they instantly sprang away.

Florida specimens of this species are fully as large as those from more northern localities. I give the dimensions of a full grown male taken at Dummett's. From nose to eye, 1.80; to ear, 4.78; to occiput, 6.00; to root of tail, 33.00; to outstretched hind leg, 48.00. Tail to end of vertebra, 7.75; to end of hair, 8.60. Length of hind leg, 7.00. Length of hand, 4.40; width, 2.00. In color Florida wild cats are much more rufous than those from the north, and are inclined to be more spotted.

#### CANIDÆ.

##### 3. *Canis lupus* LINN.

Gray Wolf.

The stronghold of these wolves is at present in what is called the "Gulf Hummock" in western Florida, where they are quite numerous. According to Mr. F. A. Ober they are also found about the Kissinee River and Lake Okechobee. I saw the tracks made by a single animal near Salt Lake. It was accustomed to pass along a sandy road every night for the greater part of the time which we remained in the vicinity. My guide, Mr. Burton, who had resided near this place for some months, informed me that he had never seen it, nor had any of the settlers, although it was frequently heard to howl. I did not meet with any wolves about Miami nor do I think that they occur south of the Everglades. Individuals who have frequently taken this species describe them as being very dark colored, usually quite black.

##### 4. *Vulpes Virginianus* RICHARDSON.

Gray Fox.

Common in the wilder districts. This little fox does not appear to do any great degree of mischief on the plantations and it is probable that it finds sufficient wild game to satisfy its appetite. I once surprised one that was cautiously making its way towards a large bevy of quails with the evident intention of capturing some. Specimens from Florida are quite gray in color, especially upon the upper parts.

#### MUSTELIDÆ.

##### 5. *Putorius lutreolus* CUVIER.

Mink.

I saw but a single specimen of this animal. This was on the St. John's River above Blue Springs, where one swam across the river but a short distance in advance of our boat. I did not learn that it was at all common; indeed, nearly all the hunters seemed entirely unacquainted with it.

One feature, noticed in skins of this species taken in Maine and New Hampshire, which I have never seen mentioned, is the presence of white hairs which are more or less numerous in the dark colors of the back. This species appears inclined to albinism, but the appearance of the white hairs is not the result of this disease, for in every instance that I have seen of an approach to albinism the fur turns white first and the hair afterwards.

6. *Lutra Canadensis* SABINE.

Otter.

Very abundant throughout the greater part of the state. I found them as numerous on Indian River as in the interior, but did not meet with them at Miami, in the Everglades or among the Keys. The fur is of little value in comparison with northern skins; the best winter pelts being worth but five dollars each in Boston. The usual price paid in Jacksonville is from seventy-five cents to one dollar, consequently they are not hunted much and therefore are not shy. They are quite inquisitive and will sometimes follow a boat for some distance, or approach any one standing upon the shore. At the same time they will utter a short, continuous grunt. Otters may frequently be seen chasing each other sportively through the water, and while we were in the vicinity of South Lake, my guide, Mr. Burton, called my attention to certain smooth paths in a sandy spot, which he said were otter slides. They appear to amuse themselves by dragging their bodies over the smooth sand, just as the same species glide down snow-covered river-banks at the north. The slides in Florida were situated at some distance from the water.

The color of adult otters from this state is strongly inclined to reddish-brown, but the young which are dropped in February are very dark. I think I never saw a more beautiful animal than a young specimen of this species which was captured at the head of Indian River by Mr. Thurston. It was only about two weeks old, yet was covered with a fine coat of exceedingly glossy fur.

7. *Mephitis mephitis* BAIRD.

Common Skunk.

This species seems to be restricted to the more northern portions of the state. Specimens taken in this region present the same variation regarding the distribution of the black and white which is noticeable in this animal elsewhere. Although the amount of the above named colors is changeable, it is unusual to see the skunk of a different hue; yet Mr. F. A. Ober of Beverly has a specimen which was taken in that place, that is marked in a very singular manner, inas-



much as those portions which are usually black are in this instance pale brown or fawn.

8. *Mephitis bicolor* GRAY.

Little Striped Skunk.

This pretty little species which, previous to my discovering it in Florida, was not known to occur east of the Mississippi, is very abundant in certain sections of the state. They are confined to the narrow strip of land which lies between Indian River and Turnbull Swamp, being found as far north as New Smyrna and south to Jupiter Inlet. They appear to take the place of the common skunk, which does not occur in this section. They frequent the scrub, and traces of them may be seen at all times, for they have the habit of digging small holes in search of insects, like the preceding species. These skunks are easily domesticated and I have frequently known of their being used in the houses for the purpose of catching mice. Sometimes the animals are captured and the scent glands removed, but they are often simply decoyed about the premises by exposing food, when they will take up their abode beneath the buildings, and will soon become so tame as to enter the various apartments in search of their prey.

URSIDÆ.

9. *Procyon lotor* STORR.

Raccoon.

Very numerous both upon the mainland and among the Keys, even frequenting the low mangrove islands which are overflowed by every tide. They subsist upon fish and crabs to a great measure when upon the seashore, but in the interior they live chiefly upon the fluviatile mollusks (*Unio*, *Pomus*, etc.). They are strictly nocturnal, seldom appearing abroad during the day.

In color the Florida raccoon differs from New England specimens in being more rufous; the black markings are not as conspicuous, the dark rings on the tail being sometimes nearly obsolete; in fact, adult specimens from Florida in this respect resemble those from New England.

10. *Ursus Americanus* PALLAS.

Black Bear.

Very common, especially in the unsettled districts; giving the inhabitants considerable trouble by destroying young pigs. Although extremely abundant in certain sections, as the numerous tracks indicate, it is difficult to see one, for they chiefly move about during the night. The bears of Florida do not hibernate, but are not quite as active during the winter months as in summer. The young are

born in early spring, after which the females are said to be somewhat dangerous, especially if surprised when with their cubs; but at other times both sexes are arrant cowards. They will not even molest one when sleeping, but will always avoid the presence of man when aware of it. I have made my bed in a bear path and, in the morning, found by the tracks made by them in the night that they made a wide circuit rather than pass near me.

The food of the Florida bears is variable. During the early winter they feed on the berries of the common and the saw palmettoes; later in the season they eat the tender new growth, or buds, of the above mentioned plants; for this purpose they will climb the tallest palmetto and with their strong claws will tear out the "cabbage," as the new growth is sometimes called, and eagerly devour it. The removing of this bud is no easy task even to an experienced person provided with an axe, yet Bruin's great strength enables him to force the tough leaf-stalks asunder with the greatest of ease. Trees which have been treated in this rough manner invariably die and a large number may be seen in this condition in any cabbage swamp.

When the king or horseshoe crabs come on shore to deposit their spawn, the bears resort to the shore and, after turning the crustaceans over, scoop out their softer parts. They are also aware of the time when the sea turtle lay, and during the months of June and July walk the beaches nightly and devour the eggs. Indeed, so persistently do they hunt for them that it is almost impossible to find a nest that has been undisturbed.

The bears of this state are fully as large as those from New England, and the hair is as dark colored. I have also seen skins that were but little inferior to northern ones in woolliness, but generally they are only covered with hair. One which I procured at Dummett's in the winter of 1869 is singularly marked, for it has brownish lines starting from the point of each shoulder and extending down the legs on the inside. The other portion of the hair is black. The young for a year or two are strongly inclined to reddish-brown. The bears inhabit the entire portion of the mainland, but are seldom found on the Keys.

#### CERVIDÆ.

##### 11. *Cariacus Virginianus* GRAY.

#### Common Deer.

Very numerous in almost all sections. The deer of Florida are not likely to be exterminated very soon, not only because of their abundance, but because the inhabitants do not kill them wantonly, knowing that they are extremely valuable to them for food, and the tourists who possess sufficient skill to capture any number of them are scarce.

When we first attempted to hunt deer we were almost always unsuccessful, even rarely being able to see one, and were informed by the hunters that we did not go out at the right time. Upon questioning them they told us that the deer were governed in their time of feeding by the moon. An hour before moonrise the animals arose from their beds or came out of the hummocks to feed upon the grass in the clearings, or in the piny woods, continuing until after the moon was up. An hour before the moon southed (*i. e.*, attained its highest altitude) they did the same thing, and also when it was directly beneath the earth, making in all eight hours feeding time. At first I laughed at this as an old hunter's notion, for although it is easy to understand why the deer should feed at those times when the moon rises near night and sets near morning, it is difficult to perceive why they should conform to the same rule through all the varying phases. But after three seasons' experience I am obliged to acknowledge that as far as my observation extends this theory is correct. The deer are certainly seen feeding much more frequently during these stated times than at others. Of course one occasionally meets a straggling animal at other hours, but I never found any number on their feet at any other time. All the hunters with whom I have conversed also confirm this. Another singular fact is that the great horned owls hoot at the feeding time of the deer, even if it be broad daylight. I have observed this fact on many occasions, and the hunters, when they hear the owls, say "now the deer are feeding."

Early in February the deer moult. The bucks then lose their horns and the does are heavy with young, which they drop in March. Before the moult the hair is of a bluish color, but after shedding they take on a sleek coat of fine reddish hue. This animal is found in all sections, even on the Keys. They inhabit small islands where they can obtain little or no fresh water, yet deer from these localities are noticeably larger than those from the mainland. Of this fact I have been assured by Lord Parker, an English gentleman who has spent several winters in Florida, and who has killed a large number of these animals in all sections of the state.

#### MANATIDÆ.

##### 12. *Trichechus manatus* LINN.

##### Manatee.

This singular animal is found in large numbers about the inlets of Indian River, and Capt. Dummett informs me that he has captured specimens as far north as his place, which is within five miles of the head of the river. I have been informed by creditable authorities that it is remarkably abundant upon the western coast in the various rivers and creeks which abound between Tampa Bay and Cape Sable.



I have never seen it in Mosquito or Halifax Lagoons and am confident that it does not occur there. This species is said to feed upon the leaves of the mangrove during the night.

DELPHINIDÆ.

13. *Delphinus erebennus* COPE.

Porpoise.

A large number of porpoises which I take to be this species occur abundantly about the bays, salt water rivers and along the entire coast of Florida. It is also probable that a second species may be found.

VESPERTILIONIDÆ.

14. *Lasiurus Noveboracensis* GRAY.

Red Bat.

Common in the more northern sections of the state, frequenting the woods. During the day they rest hanging head downwards upon the leaf of a tree. Specimens captured are not only smaller in size than those from the north, but are much deeper in color; the fur, however, is generally tipped with ash.

15. *Scotophilus fuscus* H. ALLEN.

Carolina Bat.

Common throughout the northern sections, but more abundant in the vicinity of settlements.

I once captured a female specimen of this species which was heavy with young, placed her in a cage and left her. After an absence of an hour or so I returned and found that she had escaped, but had left a young one clinging to the woodwork on the side. The little thing was entirely naked, but was furnished with teeth, which it showed when handled and endeavored to bite, squeaking after the manner of all these animals. I replaced it in the cage, where it remained until night, but in the morning it was gone and I supposed that its mother had carried it away.

16. *Scotophilus Georgianus* H. ALLEN.

Georgia Bat.

Two bats which I have in my collection, that were shot about ten miles south of Salt Lake, I think are of this species. The specimens were taken in the evening and were flying about near a small pond in the piny woods.

17. *Nycticejus crepuscularis* H. ALLEN.

Mr. J. A. Allen in the "Bulletin of the Museum of Comparative Zoology" (Vol. ii, No. 3, p. 174) states that there is a specimen of

this bat in the museum at Cambridge which was collected in Florida by Mr. Charles Belknap.

18. *Corynorhinus macrotis* H. ALLEN.

Big-eared Bat.

Dr. Harrison Allen in his monogram of North American Bats (p. 55) cites a specimen of this species which was collected in Micanopy, Florida, by Dr. Bean.

NOCTILIONIDÆ.

19. *Nyctinomus nasutus* TOMES.

A bat was shot by a member of my party on the St. John's River, near Jacksonville, early in the winter, which I am confident was of this species. This specimen was unfortunately lost.

SHENODERMIDÆ.

20. *Artibeus perspicillatus* MAYNARD.

Tailless Leaf-nosed Bat.

While at Key West in the early winter of 1870, I observed several large bats flying about the city, which closely resembled in flight a species which I had seen in northern Florida two years before, but which flew so high that I was unable to shoot them. I was very anxious to obtain a specimen, but as shooting was prohibited in the streets of the city of Key West, and as I never saw the bats elsewhere on the island, feared that I should be obliged to go away without one. I was, therefore, agreeably surprised one morning to see a boy enter my room with a bat in his hand, which from its large size I knew could be no other than the species which I had so long desired to obtain. He said that he had found it hanging upon the leaf of a tree and had killed it with a piece of limestone. It is a leaf-nosed bat, and Dr. Harrison Allen has kindly identified it, from sketches sent to him, as the above species. This is, I think, the first instance on record of a bat of this form being taken on the Atlantic slope. This species, without doubt, inhabits the whole of Florida. They fly early in the evening, often before sunset, and, as has been remarked, usually very high.

None of the bats of Florida appear to hibernate, or at best they only remain quiet during an occasionally cold night.

SORECIDÆ.

21. *Blarina brevicauda et talpoides* BAIRD.

Mole Shrew.

I found a single specimen of this little species in an unused cistern,



at Miami. I have never seen it elsewhere in the state, although it probably occurs.

TALPIDÆ.

22. *Scalops aquaticus* FISCHER.

Shrew Mole.

Very common at Blue Spring, where they do considerable damage by disturbing the roots of vegetables and plants in the cultivated fields. They are also said to eat sweet potatoes. They form their burrows only an inch or two below the surface; throwing up ridges so that their presence is readily detected. This work is usually performed during the night.

SCIURIDÆ.

23. *Sciurus niger* LINN.

Southern Fox Squirrel.

Quite common in the piny woods, but I do not think that they are ever to be found in the hummocks. They feed upon the seeds of the pines and are therefore usually found in the tops of the trees which are commonly high; thus it is quite difficult to procure specimens, as on the approach of the hunter they conceal themselves among the thick foliage. They are extremely variable in color, specimens being found which exhibit all shades of coloration from pale rufous to black or dusky. The latter colors predominate, however. I think this species is confined to the more northern portions of the state, as I have never seen it at Miami.

24. *Sciurus Carolinensis* GMELIN.

Gray Squirrel.

Very abundant in the northern and central sections of the state, but singularly I did not see it at Miami, or among the Keys. They inhabit the hummocks and are seldom seen in the piny woods. They have much the same habits as those which inhabit New England. But I cannot now remember of ever having seen a nest of sticks and leaves such as this species construct in the north. Specimens are not only smaller in size, but are also more rufous than northern individuals. I have never seen a specimen of the black variety in Florida and am confident that it seldom, if ever, occurs.

GEOMYINÆ.

25. *Geomys pineti* RAFINESQUE.

Salamander.

This singular animal is confined to the more northern portions of the state, none being found south of Lake Harney. They inhabit the dry pine barrens, where in the process of burrowing they throw up

little mounds which in some sections are quite numerous. They are provided with large cheek pouches, with which they are said to convey the earth to the surface. The salamander is seldom seen abroad during the day, and if they ever leave the burrows it is in the night. When by any accident they appear above ground in the daylight, they seem confused, and may be readily captured.

#### MURIDÆ.

##### 26. *Mus decumanus* PALLAS.

Brown Rat.

Found abundantly at Jacksonville, not only in the city, but on the neighboring plantations. I do not remember of having observed it elsewhere in Florida. I have never seen a specimen of the common mouse (*mus musculus*) in the state.

##### 27. *Mus tectorum* SAVI.

White-bellied Rat.

The first instance of my finding this species in Florida was at Miami. There was an old cistern here which was formerly used by the troops which were stationed at old Fort Dallas. It was about ten feet deep, having cemented sides, and contained nearly two feet of water. Several species of the smaller *rodents* were frequently found dead and floating on the surface, having evidently fallen in while attempting to reach the water. Among them was a specimen of the white-bellied rat. As this was the only instance of my taking it in the southern section of the state I am unable to give any account of its habits there. But I found it in immense numbers at Salt Lake, inhabiting the moist prairies. Here they build nests near the tops of the grass, somewhat after the manner that the white-footed mouse builds in bushes at the North. This species was probably introduced into the country from the vessels of the early Spanish discoverers. In the old world it inhabits the thatched roofs of houses, from which we may infer that this species originally found its home among thick reeds or grasses, of which the roofing would probably be composed. Thus in the white-bellied rat of the wilds of Florida we have an example of a species instinctively returning to its primitive habits, even though its ancestors from force of circumstances have for many generations dwelt in a different manner.

##### 28. *Hesperomys leucopus* WAGNER (= *cognatus*, *myoides* et *gossypinus* of authors).

White-footed Mouse.

This mouse is very abundant throughout all sections of the mainland of Florida, infesting the houses of the smaller settlements after

the manner of the common mouse. I have also known this to occur in New England, especially in isolated buildings. I can see no reason why the so-called *gossypinus* should be separated from *leucopus*, as I can find no constant character which would entitle it to a specific rank.

29. *Hesperomys aureolus* WAGNER.

Golden Mouse.

I obtained two specimens of this beautiful little mouse near Dummett's. Both of them were captured in a house where the common species (*leucopus*) was also abundant. This was in the spring of 1869, but since that time I have never been able to find another, and the people who brought the specimens informed me that they were quite rare.

30. *Hesperomys palustris* WAG.

Rice-field Mouse.

Audubon and Bachman say that a specimen was obtained in the Everglades of Florida by Dr. Leitner. I was aware of the existence of a small *rodent* in these immense marshes, but was unable to obtain specimens. They probably were of this species, however.

31. *Neotoma Floridana* SAY and ORD.

Wood Rat.

I saw nests of this species quite common about Jacksonville and Hibernia, but found none at Blue Springs or at any section south of this point. But Prof. Baird, in his "Mammals of North America," cites a specimen which was taken on Indian River by Dr. Wurdemann.

32. *Sigmodon hispidus* SAY and ORD.

Cotton Rat.

Common throughout the entire mainland of Florida, and appears to frequent the marshy places along the borders of rivers and other bodies of water. Whenever we encamped in such localities the cotton rats would gather around to feed upon remnants of scattered food. It appears to be nocturnal in its habits.

33. *Arvicola pinetorum* LECONTE.

Pine Mouse.

I insert this species on the authority of Audubon and Bachman, who assert that they have received it from Florida.

LEPORIDÆ.

34. *Lepus sylvaticus* BACHMAN.

Gray Rabbit.

Abundant throughout all sections of the mainland, frequenting the



pine woods as well as the hummocks. They appear to have much the same habits as at the north.

35. *Lepus palustris* BACHMAN.

Marsh Rabbit.

Common in the marshes of the St. John's River.

DIDELPHIDÆ.

36. *Didelphys Virginiana* SHAW.

Opossum.

Common throughout the mainland of the state, but does not occur on the Keys. These animals are a decided pest to the inhabitants, for they are prone to rob hen roosts. They are strictly nocturnal, remaining concealed in the trees during the day.

I have never met with an undomesticated animal so variable in color. Three specimens now before me exhibit the extremes. One, evidently an old individual, is gray throughout, inclining more to white, with no decided black markings, excepting the ears, legs and feet. The latter are *black to the nails* on some of the toes, while the other claws have a few white hairs at their bases. The tail is entirely white. Another, younger, has dirty white fur with black tips. Numerous long white hairs appear over the entire upper surface of the body, giving the animal a singular appearance. The hind legs and feet are black, as in the other specimens, to the nails, excepting a few white hairs at their bases. The front legs and feet are black nearly to the claws. The ears are tipped with white, while the tail is black for the basal third, the remainder white. Another young specimen has the base of the fur white, but with the tips so decidedly dark that it nearly conceals the former color, and no one would hesitate to call it a black opossum. Yet its toes are white, there are white markings about the head, and a stripe on the belly is white, with a yellow suffusion between the fore legs. Only one-fourth of the basal portion of the tail is black.

These three represent the widest variation I have ever met with, in point of color, and Mr. J. A. Allen, in the "Bulletin of the Museum of Comparative Zoology" (p. 185), and Dr. Elliott Coues, in the "Proceedings of the Academy of Natural Sciences of Philadelphia," for May, 1871, assert that the skulls are also extremely variable.

APPENDIX.

*Mammals which were formerly found in Florida.*

According to Bartram the beaver (*Castor Canadensis*) was formerly found in the state. He makes mention of it in his travels in Florida, published in 1791.

The historians of De Soto's travels speak of herds of wild cattle being found in Florida. They probably allude to the buffalo (*Bos Americanus*), which without doubt extended its range to the prairies of the west coast.

The last mentioned authors and other early writers also speak of a wild dog as inhabiting Florida. They cannot mean the wolf or the fox, for these are included in their lists of the animals of the then new country. It is possible that the singular species of dog now used by the Seminoles of Florida was once wild.

*Domesticated species found in a wild state.*

There are hundreds of cattle in Florida which are now perfectly wild and have been in this condition since the first Indian war, at which time they escaped from their owners. They generally inhabit what is termed the "Turnbull Swamp," a wide expanse of waste land which lies about the head of Indian River. But I have seen them in the interior, near the head waters of the St. John's River. They are rapidly becoming exterminated, however, as the settlers consider them common property and shoot them whenever they can.

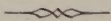
Hogs are also found wild in some sections, but not in any great numbers. The usually black color of the domestic hogs of Florida has been noticed by Darwin in his fifth edition of "Origin of Species" (p. 26) on the authority of Prof. Wyman. He says that the light colored hogs contract a disease from eating the paint-root (*Lachnanthes tinctoria*) which causes their hoofs to drop off, whereas black ones are not affected by it. I have carefully inquired into this matter and have not only observed for myself, but conversed with many intelligent men upon the subject. I find that a slight error has been made in the statement. The color of the hair or bristles has nothing to do with the health of the animal, but its *hoofs* must be black in order that it may eat the paint root with impunity. I have seen black pigs having white feet lame from this cause, and this is the usual opinion of all the pig raisers with whom I conversed. Yet this does not materially affect Mr. Darwin's argument, which is that the mere existence of a certain plant causes the hogs of this section to assume a dark color, for if the hoofs are dark the whole animal is usually dark. That the case may be made seemingly stronger I will say, that in some sections of Florida, where the paint root does not grow, white hogs are as numerous as black ones.

I find that there is another reason why the settlers select hogs which are of a dark color. This is that they stand a better chance of escaping from bears than white ones, as they are less conspicuous, especially in the night. Now I can go a step farther and show that

the hogs of themselves assume a protective color. It is noticeable that hogs which have lived for generations in the piny woods are of a reddish hue, corresponding exactly with the color of the fallen pine leaves, so that it is almost impossible to detect one at a little distance when it is lying upon a bed formed of them.

This instance, together with the fact that the black hoof is a safeguard against the poisonous effects of the paint root, seems a conclusive argument in favor of the theory that the Florida hogs have made a slight advance towards forming a new variety or species.

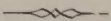
But I look upon it in another way, and see in these instances but illustrations of a law in nature which grants to nearly all animals the power of assuming protective colors, under certain circumstances, but in a limited degree. This is to be seen in many cases among animals, the most familiar of which is that of the northern hare (*Lepus Americanus*), which in autumn puts off its brown summer dress and takes on one of the color of the snow, among which it has to live throughout the winter. The hogs of Florida return to the mixed colors in sections where the paint root does not grow and where no pains are taken to select black ones, or where their food and surroundings are varied. There are apparently few or no analogous instances to the black hoofs being a protection against poison, yet I will venture to say that did we understand the entire economy of nature, we should find many similar ones.



#### QUARTERLY MEETING, WEDNESDAY, AUGUST 14, 1872.

THE meeting was held at 3 P. M. The President in the chair.

Stephen P. Driver of Salem and Charles F. Crocker of Lawrence were elected resident members.



#### REGULAR MEETING, MONDAY, OCTOBER 21, 1872.

First evening meeting, present season, commenced at 7 30 P. M. The President in the chair. Records read.



The SECRETARY announced the following correspondence :—

From American Geographical Society, Sept. 18; Belfast Naturalists' Field Club; Brooklyn Mercantile Library Association, Oct. 8; Buffalo Historical Society, Sept. 12; Edinburgh Royal Society, March; Iowa State Historical Society, Aug. 3; Leeds Philosophical and Literary Society, Sept. 4; London Society of Antiquaries, Aug. 31; Minnesota Historical Society, Aug. 22; Maryland Historical Society, Aug. 12; Moravian Historical Society, Aug. 9; New Jersey Historical Society, Aug. 30, Sept. 3; New York, Cooper Union, Sept. 6, Oct. 15; New York Genealogical and Biographical Society, Aug. 21; New York Lyceum of Natural History, Oct. 7; New York State, Aug. 30; Ohio Historical and Philosophical Society, Aug. 5, Sept. 6; Yale College, Corporation, Sept. 23; Ammiden, P. R., Boston, Aug. 22; Anthony, H. B., Providence, Aug. 8; Babson, J. J., Gloucester, Aug. 12; Boow, E. P., New York, Sept. 28, Oct. 4, 17; Chever, D. A., Denver, Col., Oct. 13; Clark, B. H., Rochester, N. Y., Sept. 20; Crocker, Chs. F., Lawrence, Aug. 17; Cram, Milo T., Holyoke, Mass., Aug. 19; Dall, C. H., Boston, Oct. 11; Drake, S. G., Boston, Sept. 13; Frary, Lucius H., Middleton, Sept. 3; Hanaford, P. A., New Haven, Conn., Sept. 23; Higginson, T. W., Newport, R. I., Oct. 20; Hough, F. B., Lowville, N. Y., Aug. 7; Marston & Prince, Lowell, Aug. 20; Perry, W. S., Geneva, N. Y., Oct. 1; Roundy, Henry, Salem, Sept. 28; Venable, J. E., Paducah, Ky., Sept. 16; Yeomans, W. H., Columbia, Conn., Aug. 8, Oct. 17.

A letter was read from W. A. WILLIAMS, engineer on the Copiapo Railroad, to Capt. Robert Manning, accompanying a box of fossil shells and radiates, some found above the sea at Caldera, in extensive beds, at four hundred feet above sea level; the others at Molle, about one hundred miles from the coast, at a height of five thousand feet above the sea, where the ground is strewn with them.

Daniel Varney, Charles Baker and Catherine T. Woods, all of Salem, were elected resident members.

Dr. J. L. Smith, Louisville, Ky.; Prof. E. B. Andrews, Marietta, Ohio; Prof. E. T. Cox, Indianapolis, Ind.; Dr. G. M. Levette, Indianapolis, Ind.; J. Collett, Esq., Eugene, Vermilion Co., Ind.; Prof. C. A. White, Iowa City, Iowa; J. L. Waters, Esq., Chicago, Ill.; Col. J. W. Foster, Chicago, Ill.; Prof. C. G. Swallow, Columbia, Mo.; Prof. J. S. Newberry, New York, N. Y.; Prof. A. Winchell, Ann Arbor, Mich.; Prof. Raphael Pumpelly, Cambridge, were elected corresponding members.

THE LIBRARIAN reported the following additions:—

*By Donation.*

ANDREWS, MISS. Manual for the General Court, 1864, 1 vol. 42mo. Bland's Treatise of Military Discipline, 1 vol. 8vo. London, 1727. Report of the Comptroller of New York, 1854, 1 vol. 8vo. Report of the Portsmouth Relief Association, 1855, 1 vol. 8vo. The Railroad Jubilee, 1851, 1 vol. 8vo. Patent Office Report, 1848, 1 vol. 8vo. Foster's Book Keeping, 1 vol. 8vo. Pickering's Vocabulary, 1 vol. 8vo. Miscellaneous pamphlets, 16.

BOLLES, E. C. Miscellaneous pamphlets, 29.

BROOKS, MRS. HENRY M. Woman's Journal, 26 nos.

BUTLER, B. F., of U. S. H. R. Message and Documents, 1871-2, 5 vols. 8vo. Report of the Committee on Agriculture, 1869, 1870, 2 vols. 8vo. Ku-Klux Conspiracy, 13 vols. 8vo. Patent Office Reports, 1868, 4 vols. 8vo. Smithsonian Report, 1870, 1 vol. 8vo. Mineral Resources West of the Rocky Mts., 1871, 1 vol. 8vo. Report on Commerce and Navigation, 1870, 1 vol. 8vo. Congressional Globe, 3rd Sess., 41st Cong., 1870-1, 3 vols. 4to. Statistics of Population. Ninth Census. Tables I-VIII. 1 vol. 4to, 1870. Report on Investigation and Retrenchment, 8vo pamph. Report of the Commissioners of Education, 1870-1, 2 vols. 8vo. Explorations in Nevada and Arizona, 1871, 1 vol. 4to.

CHANDLER, Z., of U. S. S. Proceedings of the National Union Republican Convention held at Phila., June 5, 6, 1872, 1 vol. 8vo.

CLARK, B. H., of Rochester, N. Y. Directories of Rochester for 1870, 1871, 2 vols. 8vo. Miscellaneous pamphlets, 5.

COLE, MRS. N. D. Salem Gazette, 70 nos. Miscellaneous pamphlets, 20.

CONANT, W. P. Ninth and Eleventh Report of the St. Louis Agricultural and Mechanical Association, 1870, 1872, 2 vols. 8vo. Miscellaneous pamphlets, 6.

CUTTER, A. E., of Charlestown, Mass. Proceedings at the Dedication of the Soldiers' and Sailors' Monument at Charlestown, June 17, 1872. 8vo pamph.

DALAND, W. S., of New York. Directory of New York City, 1871, 1 vol. 8vo.

DE LORMIER, W. K., of Dubuque, Iowa. Iowa State Gazetteer, 1865, 1 vol. 8vo.

GILMORE, L. B., of Ann Arbor, Mich. Directory of Ann Arbor, 1868, 1 vol. 8vo.

HAWKS, J. M., of Pensacola, Fla. The Florida Gazetteer, 8vo pamph., 1871.

KELLOGG, C. A. & Co., of Rochester, N. Y. New York State Directories, 1864, 1869, 2 vols. 8vo. Directory of over one hundred Cities and Villages in the State of New York, 1869-70, 1 vol. 8vo. Directories of Central New York, 1865, 1867, 2 vols. 8vo. Buffalo City Directories, 1866, 1867, 1869, 1870, 4 vols. 8vo. Rochester City Directories, 1864-5, 1866-7, 1867-8, 1870, 4 vols. 8vo.

KIMBALL, JAMES. Lawrence Directories, 1857, 1859, 2 vols. 16mo.

LEE, JOHN C. Commercial Bulletin, Aug. 10, 17; Sept. 7, 14, 21, 28; Oct. 5, 1872.

LOUBAT, ALPHONSE, of New York. Vine Dresser's Guide, 1 vol. 12mo.

MANNING ROBERT. Miscellaneous pamphlets, 65.

MC. CREERY, J. L., of Dubuque, Iowa. Directory of Dubuque, 1865-6, 1 vol. 8vo. Miscellaneous pamphlets, 6.

MOORE, CHAS. B., New York. Indexes. Town of Southold, L. I. 8vo pamph.

NATIONAL ASSOCIATION OF WOOL MANUFACTURES. Bulletin for Apr., Sept., 1872.

OLIVER, HENRY K. Patent Office Reports, 1847, 1850-1, 1851, 1852-3, 1853, 1854, 1856, 1857, 1858, 1859, 1861, 13 vols. 8vo. Message and Documents, 1867-8, 2 vols. 8vo. Auditor's Report, 1867, 1 vol. 8vo. Hawaiian Club Papers, Oct. 1868, 1 vol. 8vo. Eighth Annual Report of the Insurance Commissioners, 1 vol. 8vo. Key to the Element of Arithmetic, by P. E. Chase, 1 vol. 12mo. Miscellaneous pamphlets, 352.

[To be continued.]